

by their judgment and ability to select good stock, secondly, by judicious inbreeding, and, thirdly, by ruthlessly discarding unsatisfactory animals.

We have no hesitation in recommending this book to all who are theoretically or practically interested in the subject of breeding.

GEOGRAPHICAL MANUALS AND GUIDES.

- (1) *A General Geography of the World*. By H. E. Evans. Pp. xii+439. (London: Blackie and Son, Ltd., 1909.) Price 3s. 6d.
- (2) *The Oxford Geographies*. (Oxford: Clarendon Press, 1909.) (a) *The Practical Geography*. By J. F. Unstead. Part i, pp. 120; part ii, pp. 112; complete in one volume. Price 2s. 6d. (b) *The Elementary Geography*. By F. D. Herbertson. Vol. i; *A First Physiography*. Pp. 80. Price 10d. Vol. iii; *Europe, excluding the British Isles*. Pp. 112. Price 1s.
- (3) *Cambridge County Geographies*. *Norfolk*. By W. A. Dutt. Pp. viii+156. *Suffolk*. By W. A. Dutt. Pp. viii+136. *Hertfordshire*. By R. Lydekker. Pp. ix+173. *Wiltshire*. By A. G. Bradley. Pp. xi+156. (Cambridge: University Press, 1909.) Price 1s. 6d. each.
- (4) *By Road and River: a Descriptive Geography of the British Isles*. By E. M. Wilmot-Buxton. Pp. viii+154. (London: Methuen and Co., 1909.) Price 2s.
- (5) *A Systematic Geography of the British Isles*. By G. W. Webb. Pp. viii+94. (London: Methuen and Co., 1909.) Price 1s.
- (6) *Highways and Byways in Middlesex*. By W. Jerrold. Pp. xviii+400. (London: Macmillan and Co., Ltd., 1909.) Price 6s.
- (7) *Growls from Uganda*. By Critolaos. Pp. 120. (London: Elliott Stock, 1909.) Price 2s. 6d. net.

(1) IF the student of geography can be taught to appreciate the value of a work of general reference, strictly arranged on a systematic plan, Mr. Evans' "General Geography" should meet with a demand. But it is not difficult, on the other hand, to imagine the school-child quailing before these serried ranks of facts, figures, and names, baldly presented, thrust forward by means of heavy-faced type, summarised (where there is need) in tables. It is to be hoped that no attempt is made, in these days, to teach geography out of such a book alone; but as a medium for refreshing the memory on essential points before an examination, it should be of great value. To enhance this value, a number of examination questions are given. Another noteworthy feature is that the index is made to serve as a guide to pronunciation, a matter in which students (and, for the matter of that, most other people) are commonly at fault owing to the difficulty of obtaining guidance in it.

(2) Mr. Unstead's "Practical Geography," as its name suggests, is a guide to practical work in geography. The guidance is provided by series of exercises, each group of which is preceded by an introductory statement. There are two parts in this volume. The first deals with map-reading, field work (i.e. the study of local geographical features on the

spot), weather, and the British Isles. The second part is for students somewhat more advanced; it deals with map-making, weather changes, and their causes, the form and movements of the earth, the principal countries, and the comparative growth of population and development of commerce in Great Britain and other countries. Full directions are given for plotting on maps or illustrating by diagrams the various classes of geographical information, under the above headings, which are capable of such treatment. The exercises appear to be carefully thought out and suggestive, and ought to interest every student who once acquires an aptitude for them.

It would be hard to keep the requirements of the most elementary teaching more carefully in view than Mrs. Herbertson has in the two volumes of "The Elementary Geography" under notice. There is certainly an art in writing from this point of view. The two volumes are slight, but must needs be so. Simplicity in language and construction of sentences has been strictly adhered to. In this series the extreme value of illustrations has been realised, and some good photographs, selected according to their relevance to points in the text, are provided, with an explanation beneath each. A few simple exercises are provided for each subject taken up. These little volumes should supply a real need; their use as an introduction to geography must be manifest, in contrast with volumes of stock questions and answers.

(3) The four volumes of the "Cambridge County Geographies" now under notice are by different hands from those previously commented upon in these columns. While they adhere strictly to the model laid down for the whole series, the style is somewhat less rigid than that of the earlier volumes, and this is undoubtedly an improvement. Line drawings have not been used in the present volumes, and the photographs call for particular commendation as being well chosen and well reproduced. It may be repeated that the series deserves every encouragement, and it is to be hoped that it will be carried to completion in the same good style as marks Mr. Dutt's works on the two eastern shires, Mr. Lydekker's on Hertfordshire, and Mr. Bradley's on Wiltshire. The volumes are really remarkable value for their price.

(4) A school-book with the title "By Road and River," suggests something of a novelty. And Mr. Wilmot-Buxton's treatment of geography as a school subject is a decided departure from the ordinary lines. For the most part, we like it very well, and so should the children who learn from it. Premising that most children have no great opportunity for learning geography by the very best method—travelling—the author invites them to "pretend to go on journeys from place to place" by rail, road, or river. The result is instructive and entertaining, even if the author occasionally goes rather far in colloquialism in order to keep his style attractive. Moreover, the sketch-maps and illustrations are quite above the average in such books—the illustrations are particularly well chosen. A few questions for exercise accompany each chapter.

(5) Mr. Webb's "Systematic Geography of the British Isles" forms a complete contrast to Mr. Wilmot-Buxton's book just noticed. The two might advantageously be used together, Mr. Wilmot-Buxton providing lighter reading to alleviate the hard facts which Mr. Webb makes little attempt to soften by picturesque writing. The study of geography in the skeletonic form in which Mr. Webb presents it is no doubt a necessity, and his book is a model of careful arrangement. He lays a greater stress than usual on geological formation, tabulating and explaining the different rocks found in these islands as simply as possible. A point open to criticism is found in the historical notes sometimes attached to the names of chief towns. Some of these remarks, in order to be understood, would either presuppose detailed historical knowledge, or necessitate so long an explanation that they had better have been omitted.

(6) The volume on Middlesex in that favourite series, "Highways and Byways," takes a high place among its companions. Mr. Hugh Thomson's illustrations are charming; we could almost blame them because they even beautify some of their subjects, when the artist shows us picturesque fragments divorced from the unlovely surroundings characteristic of suburban villages. The author admirably practises the style best suited to these volumes, a blend of pleasant description and historical gossip. It is well that such history should be preserved in accessible shape, when so much of the external evidence for it has been effaced.

(7) We cannot pretend to find much value in "Growls from Uganda." It is true that the author gives us some impressions, conveyed by a very ready pen, of his life in Uganda and his travels in British Columbia, and in these two countries he presents us with a perfect contrast, if nothing else. But the essays in which he offers views on various features of social life in England, even though they touch upon genuine abuses, seem generally to show little more than a mastery of the obvious, or to provide (as in the case of the tirade against motor cars) little else than a protest against the inevitable. Frankly, we should not have supposed these parts of the book worth printing, from whatever quarter of the globe they had been addressed.

O. J. R. H.

OUR BOOK SHELF.

Weather Indicator. Compiled and designed by Wm. Ballance. (London: G. Philip and Son, Ltd., n.d.) Price, in sheet form, 2s. 6d.; mounted, &c., 3s. 6d.

THIS is an issue in map form of what the publishers term a "weather indicator," to be obtained either in a sheet or mounted on rollers. The notes, tables, &c., have been compiled by Mr. W. Ballance, and the publishers suggest that the "weather indicator" will be found useful for schools, clubs, public libraries, hotels, boys' brigades, and boy scouts. The information given seems too elaborate, and might easily have been rendered more simple; it is not very scientific, but it probably aims to be chiefly of a popular character. Many of the so-called weather signs which are collated, especially those relating to the movements of animals, birds, and insects, have been handed down to us from

the ancients, and are somewhat amusing. For country life, some quoted should undoubtedly receive attention, but the general belief in all would tend to much confusion. For town life many are altogether inapplicable. Such statements as "A white frost never lasts more than three days," "Quick thaw foretells long frost," "Hoar frost predicts rain," are bold, but probably incorrect. The wind scale given is not in accordance with recent knowledge; the equivalent velocity in miles per hour, and equivalent wind pressure in pounds per square foot for the several units of the wind scale, are very different from those now generally accepted. To be told as a sign for fair weather the barometer should be steady, or rising about 0.004 inch per hour; for rain falling slowly about 0.004 inch per hour; for wind falling gradually about 0.011 inch per hour; for wind and rain falling moderately about 0.015 inch per hour; and for stormy weather falling or rising rapidly about 0.021 inch per hour is precision which meteorologists have no knowledge of, especially when most of our barometers only read to hundredths of an inch.

Science and Singing. A Consideration of the Capabilities of the Vocal Cords and their Work in the Art of Tone Production. By Ernest G. White. Pp. 72. (London: The Vincent Music Co., Ltd., n.d.; Boston, Mass.: Thomas J. Donlan, 1909.) Price 4s. 6d. net.

THE writer of this book endeavours to show that the tones of the human voice are not produced by the vibrations of the vocal cords, but by means of movements or pressures of the air in the sinuses found in the frontal, supermaxillary, sphenoid and ethmoid bones, and which all communicate with the cavities of the nose; in short, his theory may be called sinus tone production. In our opinion the author has not succeeded in establishing his position. The facts of anatomy and physiology, and the data of experiment, are entirely against him. Nothing is more certain than that the vocal cords vibrate, and on the other hand, one cannot conceive how vocal tones could possibly be produced by the cavities we term sinuses. These, no doubt, have their effect in modifying the qualities of vocal tones by resonance, and the quality of a so-called head voice may be so explained. The merit of the little book is that it is written in an interesting, breezy style by one who is obsessed by an idea, and that it is illustrated by a number of beautiful diagrams, evidently from actual photographs, showing the anatomical position of the various sinuses. The various pictures are admirable.

J. G. M.

Butterflies and Moths of the United Kingdom. By Dr. W. Egmont Kirby. Pp. lii+468. (London: Geo. Routledge and Sons, Ltd.; New York: E. P. Dutton and Co., n.d.) Price 7s. 6d. net.

THIS is a book comprising descriptions of the larger British lepidoptera (macro-lepidoptera), with coloured figures of them all in their perfect state, and many in the larval stage. There are also a few pages given to the micro-lepidoptera, with coloured illustrations of their characteristic species. It is a book of the popular rather than the scientific order, one for information and reference useful to collectors who wish to know where and when to find the objects of their pursuit. The coloured plates, of which there are no fewer than seventy, each comprising usually some twenty or thirty figures, are, as might be expected from the price of the work, not of a high order, but are often good, and probably always sufficient for the purpose of recognition, which is the main value of a work of this kind.